

IN THE CLAIMS:

The listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1-4. (Cancelled)

5. (Currently Amended) A plasma resistant seal comprising:

a plasma seal made entirely of a material provided with a plasma resisting performance, the plasma seal being provided in a plasma irradiating side of a packing made of a plasma resistant FKM rubber containing no mineral component and serving as a main seal,

said plasma seal being made entirely of a non-filler type of polytetrafluoroethylene and said packing being an O-ring,

a plasma seal installation groove shallower than a depth of a packing installation groove provided in an installation member, and being next to a plasma irradiation side of said packing installation groove, the installation grooves being formed in an approximately quadrangular cross section shape, side wall portions of the installation grooves being formed at a right angle with respect to an end surface of the installation member in the plasma irradiating side, and an end portion of the

plasma seal being brought into contact with the side wall portion of the plasma seal installation groove when irradiating a plasma to the plasma resistance seal;

the packing being attached to said packing installation groove; and

the plasma seal having an arch cross sectional shape with a concave surface facing a bottom surface of said plasma seal installation groove, being attached to said plasma seal installation groove in a compressed state so that the packing is prevented from protruding into a gap extending from a plasma irradiation direction.

6. (Currently Amended) A plasma resistant seal comprising:

a plasma seal made entirely of a material provided with a plasma resisting performance, the plasma seal being provided in a plasma irradiating side of a packing made of a plasma resistant FKM rubber containing no mineral component and serving as a main seal,

said plasma seal being made entirely of a non-filler type of polytetrafluoroethylene and said packing being an O-ring, a diameter of said packing being larger than a width of said plasma seal,

the packing being attached to a packing installation groove provided in an installation member, and the plasma seal being attached to a plasma irradiation side of the installation groove ~~in a compressed state,~~ the packing installation groove

being formed in an approximately quadrangular cross section shape, a side wall portion of the packing installation groove being formed at a right angle with respect to an end surface of the installation member in the plasma irradiating side, and the plasma seal being compressed between the side wall portion of the packing installation groove and the packing when irradiating a plasma to said plasma resistant seal;

the plasma seal having an arch cross sectional shape with a concave surface engaging the packing and having a convex surface engaging the ~~plasma irradiation~~ side wall portion of the packing installation groove, and

the convex and concave surfaces of the plasma seal being arranged along a direction generally orthogonal to a plasma irradiation direction so that the packing is prevented from protruding into a gap extending from the plasma irradiation direction.

7-12. (Cancelled)

13. (Currently Amended) An apparatus for manufacturing a semiconductor device by irradiating plasma using a plasma resistant seal, said plasma resistant seal comprising:

a plasma seal made entirely of a material provided with a plasma resisting performance, the plasma seal being provided in a plasma irradiating side of a packing made of a plasma resistant FKM rubber containing no mineral component and serving as a main seal,

said plasma seal being made entirely of a non-filler type of polytetrafluoroethylene and said packing being an O-ring,

a plasma seal installation groove shallower than a depth of a packing installation groove provided in an installation member, and being next to a plasma irradiation side of said packing installation groove, the installation grooves being formed in an approximately quadrangular cross section shape, side wall portions of the installation grooves being formed at a right angle with respect to an end surface of the installation member in the plasma irradiating side, and an end portion of the plasma seal being brought into contact with the side wall portion of the plasma seal installation groove when irradiating a plasma to the plasma resistant seal;

the packing being attached to said packing installation groove; and

the plasma seal having an arch cross sectional shape with a concave surface facing a bottom surface of said plasma seal installation groove, being attached to said plasma seal installation groove in a compressed state so that the packing is prevented from protruding into a gap extending from a plasma irradiation direction.

14. (Currently Amended) An apparatus for manufacturing a semiconductor device by irradiating plasma with using a plasma resistant seal, said plasma resistant seal comprising:

a plasma seal made entirely of a material provided with a plasma resisting performance, the plasma seal being provided in a plasma irradiating side of a packing made of a plasma resistant FKM rubber containing no mineral component and serving as a main seal,

said plasma seal being made entirely of a non-filler type of polytetrafluoroethylene and said packing being an O-ring, a diameter of said packing being larger than a width of said plasma seal,

the packing being attached to a packing installation groove provided in an installation member, and the plasma seal being attached to a plasma irradiation side of a same installation groove ~~in a compressed state,~~ the packing installation groove being formed in an approximately quadrangular cross section shape, a side wall portion of the packing installation groove being formed at a right angle with respect to an end surface of the installation member in the plasma irradiating side, and the plasma seal being compressed between the side wall of the packing installation groove and the packing when irradiating a plasma to said plasma resistant seal,

the plasma seal having an arch cross sectional shape with a concave surface engaging the packing and a convex surface engaging the side wall at the plasma irradiation side of the packing installation groove, and

the convex and concave surfaces of the plasma seal being arranged along a direction generally orthogonal to a plasma irradiation direction so that the packing is prevented from protruding into a gap extending from the plasma irradiation direction.

15-18. (Cancelled)